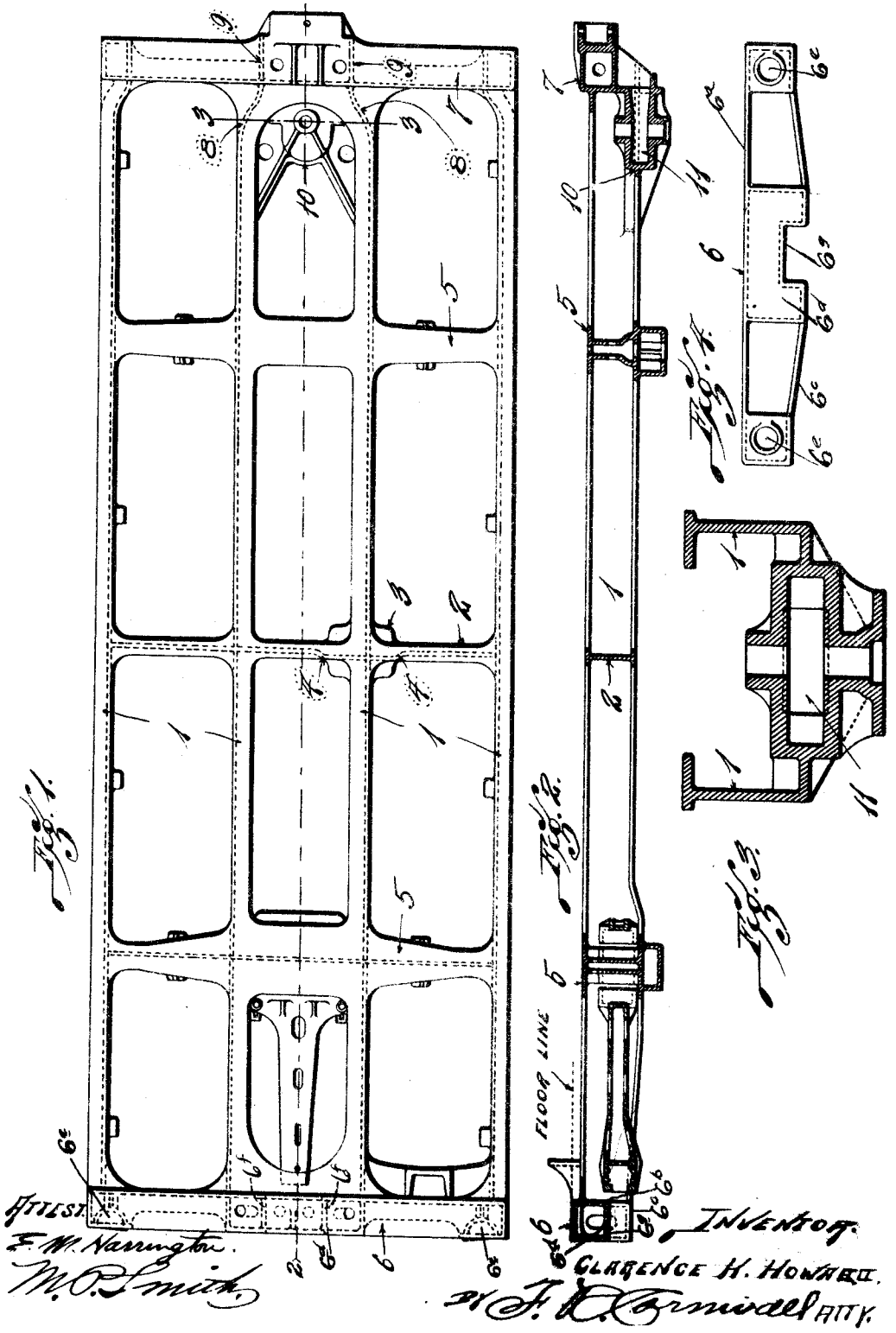
C. H. HOWARD.

CAST STEEL UNDERFRAME FOR CARS.

APPLICATION FILED JUNE 15, 1911.

1,066,818.

Patented July 8, 1913.



Witnesses:
E. M. Harrington.
M. O. Smith.

Inventor:
Clarence H. Howard.
By F. C. Grinnell Atty.

UNITED STATES PATENT OFFICE.

CLARENCE H. HOWARD, OF ST. LOUIS, MISSOURI, ASSIGNOR TO LOCOMOTIVE TENDER FRAME COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF DELAWARE.

CAST-STEEL UNDERFRAME FOR CARS.

1,066,818. Specification of Letters Patent. Patented July 8, 1913.

Application filed June 15, 1911. Serial No. 633,378.

To all whom it may concern:

Be it known that I, CLARENCE H. HOWARD, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Cast-Steel Underframes for Cars, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of the improved tender underframe; Fig. 2 is a longitudinal, sectional view, taken on the line 2—2, Fig. 3 is a sectional view on line 3—3, Fig. 1, and Fig. 4 is an end view of the rear end sill.

This invention relates to new and useful improvements in cast steel underframes for locomotive tenders and other railway rolling stock, the object being to construct a device of the character described which can be cast in one piece and which embodies a novel arrangement of flanged bars and reinforcing webs, all as will hereinafter be described and pointed out in the claim.

In the drawings 1 indicates the longitudinal members of the underframe, and 2 is the middle transverse member cast integral with the longitudinal members.

3 is a bracket integral with the bottom flanges of one of the longitudinal members 1 and transverse member 2, said bracket comprising a mount for the brake cylinder. The vertical web of the transverse member at this bracket point is deflected at 4 (see Fig. 1), and provided with jogs to accommodate the passage of bolts or rivets and to give access thereto.

5 are the transverse bolster members; 6 the rear end sill, and 7 the front end sill.

As the longitudinal members 1 approach the front end sill their top and bottom flanges are widened so as to form substantial gusset plates and the vertical webs of said longitudinal members converge inwardly as at 8 so as to lie in the longitudinal plane of the strengthening web 9 of the front end sill, which latter forms substantially a continuation of said vertical web. The bottom flanges of the longitudinal members 1 form a horizontal web 10, above and below which are walls forming a pocket 11 for a pocket-coupler. The top and bottom walls of this pocket are provided with hollow bosses forming pin openings for the pocket coupler, and said walls are reinforced by diagonal reinforcing webs which preferably extend from the bosses around the pin openings to the longitudinal member 1. The bolster members are provided with center bearings which are shown integral but these may be separate if desired.

By referring to Figs. 1, 2, and 4 it may be observed that the rear end sill is provided with a top flange or wall 6^a, an inner wall 6^b, a bottom flange or wall 6^c, and a front or outer wall 6^d. The outer wall 6^d as best shown in Fig. 4, is interrupted for spaces intermediate the side sills and the draft sills, leaving a medial portion, and end portions, which latter form box-like housings, opened toward the longitudinal center of the underframe. In these end housings like portions of the end sill are formed pole sockets 6^e. At the medial portion of the end sill the outer wall 6^d is reinforced by the strengthening webs 6^f which extend under the top wall and connect the outer wall 6^d with the top wall 6^a and the inner wall 6^b. Formed in the lower portion of the medial box-like housing intermediate the draft sills is an opening for accommodating the drawbar, so as to permit its lying up at the proper elevation and in the plane of the draft sills. At the top and sides of this opening the inner wall 6^b and the outer wall 6^d are connected by a continuous web, thus forming a walled opening through the end sill for the accommodation of the drawbar.

A tender frame constructed as above described is exceedingly simple and strong, and is not liable to be broken in service. It may readily be molded, and, as the parts are all cast integral, the absence of fastening devices prevents the parts from becoming loose.

I claim:

In an underframe having side sills and draft sills, an end sill formed integral with said side sills and said draft sills, said end sill having a continuous top wall and inner

wall, a bottom wall, and an outer wall between the draft sills, said front wall being connected by flanges with the inner wall to form a housing, and said housing being provided with a walled opening lying in the plane of the draft sills to accommodate draft rigging.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 13th day of June, 1911.

C. H. HOWARD.

Witnesses:
HAL C. BELLVILLE,
B. L. CROWLEY.